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ABSTRACT

This publication is part of a series of self-instructional teacher training manuals designed to assist vocational-technical educators or industrial trainers to develop and implement competency-based vocational education (CBVE) programs. The purpose stated for this manual is for the instructor to learn to identify the characteristics of a competency-based vocational education program. Each manual contains the following sections: cover page that contains the task title, purpose, and information block (program and task codes, estimated time, prerequisites); terminal performance and micro-performance objectives; procedures for completing this manual; learning activities with required resources cited; information sheets; activity sheets (self-checks) with answer keys; a written examination with answer key; and a product/performance checklist. (YLB)

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COMPETENCY—BASED INDIVIDUALIZED VOCATIONAL EDUCATIONAL CONSORTIUM

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A LEARNING GUIDE

Task IDENTIFY THE CHARACTERISTICS OF A COMPETENCY-BASED VOCATIONAL EDUCATION (CBVE) PROGRAM

Purpose Competency-based or performance-based education is intended to improve the teaching-learning process. It is a system for determining and structuring expected outcomes so the delivery and evaluation of instruction may be greatly enhanced. The basic intent of CBVE is to aid achievement of required tasks needed for successful on-the-job performance.

This learning guide will assist you to identify the characteristics of a CBVE program.

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SELF-INSTRUCTIONAL COMPETENCY-BASED PROFESSIONAL TEACHER TRAINING MANUAL

Program	Task	Est. Time	Prereq.
PTT	001	1-2 Hours	None

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IDENTIFY THE CHARACTERISTICS OF A COMPETENCY-BASED VOCATIONAL EDUCATION (CBVE) PROGRAM

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INTRODUCTION

This publication is part of a series of self-instructional teacher training manuals designed to assist vocational-technical educators or industrial trainers to develop and implement competency based vocational education (CBVE) programs. Each manual addresses a different aspect of CBVE. The entire set is designed to enable teachers, administrators, or industrial trainers to develop the necessary skills needed to successfully develop and implement CBVE programs in a school or industrial setting.

Each manual contains the following sections: Cover page which contains the task title, purpose, and information block; inside pages of performance objective, micro-performance objectives, learning activities, information sheets, activity sheets (self-checks), written exams, and a product/performance checklist.

Manuals have been developed for the following tasks:

1. Identify the Characteristics of a Competency-Based Vocational Education (CBVE) Program
2. Identify and Sequence Job Tasks
3. Write Measurable Performance Objectives
4. Construct Performance and Written Evaluation Instruments
5. Write Student Learning Guides or Competency Sheets
6. Adapt or Revise a Student Learning Guide or Competency Sheet
7. Identify Teaching/Learning Strategies and Management Techniques to Implement CBVE
8. Develop a Learning Resource Center
9. Orient Students to CBVE
10. Write a Student Performance Contract
11. Use Print and Nonprint Resources

12. Monitor Student Progress and Maintain Student Records

13. Assign Grades

14. Identify Necessary Administrative Support

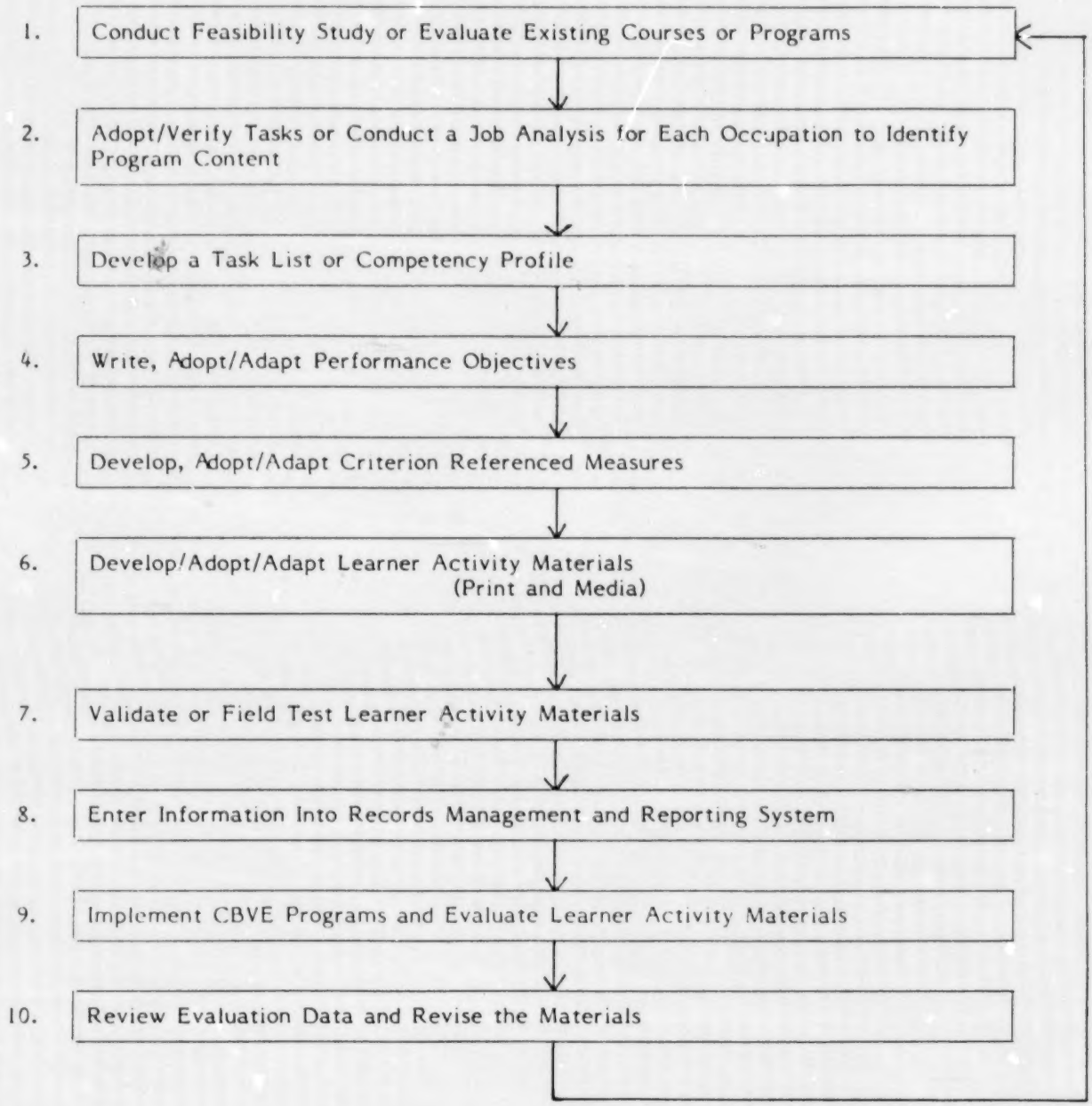
15. Prepare a Staff Development Program

Using the following CBVE systems development model, teachers, trainers, or administrators can develop and implement CBVE programs.

The following institutions deserve credit for the use of some of their materials in the development of these manuals.

- District 916 Area Vocational-Technical Institute, 3300 Century Avenue North, White Bear Lake, MN 55110
- Stephenson Area Career Center, Pearl City Road, Freeport, IL 61032
- Maryland State Department of Education, Division of Vocational Technical Education
- University of South Florida, Division of Vocational Education, Tampa, Florida

CBVE Curriculum Development Model



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OBJECTIVES OF THIS MANUAL

1. TERMINAL PERFORMANCE OBJECTIVE

GIVEN: A written criterion exam,

YOU WILL: Identify the characteristics of a competency-based vocational education program.

HOW WELL: You must score 9 out of 10 on the exam.

2. MICRO-PERFORMANCE OBJECTIVE(S)

1. Identify the components of a CBVE program
2. Identify the role of the CBVE instructor and student in a CBVE environment
3. Identify the advantages, concerns, myths, misconceptions, and benefits of CBVE
4. Identify the characteristics of a CBVE program

PROCEDURES FOR COMPLETING THIS MANUAL

1. Read the foreword
2. Review the definition of terms
3. Read the learning steps and resources for each micro-performance objective
4. Complete the activity sheets for each micro-performance objective
5. Complete the written exam
6. Review your progress with your school's CBVE resource person

FOREWORD

Why Competency-Based Vocational Education (CBVE)?

Traditional approaches to instruction have generally centered around an entire class finishing the entire curriculum (fixed-content) for a course or program on a fixed time or fixed delivery schedule; i.e., everyone completes the entire course at the same time using the same teaching/learning techniques. The main variable is the level of proficiency reached by each student. Many educators have accepted this approach to teaching where learning is the variable and time is constant. Teaching by necessity became geared to the average or above average student. The teacher tries to cover as much as possible in the semester or year-long course hoping that enough knowledge and skills will be learned so the students will be successful in obtaining a job.

In contrast, the CBVE system focuses on producing competent completers who can perform to industry standards. Learning becomes the constant and time the variable. Each aspect of a CBVE program is designed with one thing in mind: success. It is possible in a personalized CBVE program for a student or unemployed or underemployed adult to enter a training program to learn 10-15 tasks and then immediately exit the program for employment or an advanced employment position. Too many times in education we have been guilty of forcing everyone to learn everything there is to know about an occupation rather than only providing that which is really needed. In addition, in most institutions, trainees must wait until the beginning of a new term or semester to begin learning tasks; whereas in a CBVE environment, they may enter a program immediately on a space-available basis.

Another unique feature of a CBVE program is that students, because of their needs or limitations, can specialize in a job title such as being a food service aide, baker's assistant, or fry cook, rather than attempting to complete the entire

curriculum. Upon completion of the tasks for each job title, the students are certified competent for that specific job title. It makes no difference how much each student learns, just so each is employable in a job or job category which meets their interests, abilities, and needs.

MICRO - PERFORMANCE OBJECTIVE #1

Identify the Components of a CBVE Program

LEARNING STEPS

1. Read Resource #1 for a definition of CBVE.
2. Complete Resource #2 to solidify what you have learned.
3. Read Resource #3 to identify the essential and desirable components of a CBVE program.
4. Complete Resource #4 to evaluate how much you have learned about CBVE programs.
5. Go on to the next MPO.

RESOURCES

1. Information Sheet #001-001-001, "What Is Competency Based Vocational Education," located in this guide, page 10.
2. Activity Sheet #001-001-002, "Development of a Definition for CBVE," located in this guide, page 11.
3. Information Sheet #001-001-003, "Essential and Desirable Components of a CBVE Program," located in this guide, pages 12-19.
4. Activity Sheet #001-001-004, "Essential and Desirable Components of a CBVE Program," located in this guide, pages 20-21.
5. MPO #2 this guide, page 22.

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INFORMATION SHEET

001-001-001

What is Competency-Based Vocational Education (CBVE)?

Competency-based vocational education (CBVE) is a systematic approach aimed at improving the teaching/learning process. CBVE has also been called competency-based instruction (CBI), performance-based education or instruction, criterion-referenced instruction (CRI), mastery learning, proficiency-based education, objective-referenced learning and competency-based education (CBE). By definition, CBVE refers to a system whereby tasks of workers are identified and validated via a current advisory committee or workers on the job. Performance objectives are written and given to students prior to instruction. Instruction is centered around performance objectives. Criterion-referenced objective evaluation measures are used to evaluate performance. The programs can be open entry/open exit, and students master a given task before progressing to the next task.

A "competency" is defined as a knowledge, skill, attitude, judgment or task which the student will demonstrate at a predetermined level. Competency statements begin with an action verb and contain a noun. Examples are: replace brake shoes, bake a cake, identify lawn weeds, type a business letter, and make an occupied bed.

The basic intent of CBVE is to aid student mastery of required competencies needed for successful on-the-job performance. Students must perform. They cannot slide by with a "C" or "D" average with only marginal competency.

ACTIVITY SHEET

001-001-002

Development of a Definition for CBVE

Directions:

In your own words, and without looking at your resources define what is meant by a CBVE program.

Review your definition with INFORMATION SHEET 001-001-001.

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INFORMATION SHEET

001-001-003

Essential Components of a CBVE Program

1. Tasks to be achieved are:

   A. Measurable - They begin with an action verb, describe what is to be done, and may contain a qualifier.

   Example: Bake a layer cake; remove and replace brake shoes; type a business letter in modified block style.

   B. Based upon actual worker's tasks - The curriculum in a CBVE program is derived from what workers do on the job in a given occupation. It is recommended that V-TECS catalogs be used as a curriculum starting point. For new and emerging occupations, the tasks will be those expected to be performed by workers and verified by a jury of experts.

   C. Validated by representatives of business and industry - The task list generated from workers' tasks must be verified or validated (localized) by experts in the field. This can be done by workers or by the specialized occupational advisory committee. Survey results or advisory committee minutes should reveal this verification. The tasks should have been rated and not just approved by vote; i.e., not just rubber stamped.

   D. Made public in advance of instruction - The task lists or curriculum must be shown to or given to the students and everyone else who may be interested in the program prior to the beginning of instruction. This eliminates the guesswork as to what is going to be taught.

   E. Updated annually - The task list must be updated annually; i.e., reverified by industry experts.

2. Performance objectives are written for each task - Performance objectives inform the student what must be done to accomplish each task and guide the teacher in designing appropriate teaching and learning activities.

3. Each performance objective:

A. States the actual conditions under which each task will be performed for evaluation.

Examples are: - Given a recipe, baking supplies and equipment; Using an electronic typewriter; Provided with an outboard engine.

The conditions statement should never contain teaching/learning activities or describe what the teacher will be doing.

B. Contains explicitly stated criteria and standards for evaluation. The performance objective should refer to written exams and product/performance checklists. Explicitly stated criteria eliminates the guessing game as to which elements of a program are essential and which are not. Student performance is measured against these standards and not other students.

C. Contains a restatement of the task - One-third of an objective is an exact repeat of the task statement from the task list.

D. Is made public in advance of instruction - The performance objectives should be available to students and all concerned individuals prior to instruction.

An example of a good performance objective is:

(Condition)	Given:	A recipe, baking supplies, and equipment
(Task Statement)	You Will:	Bake a layer cake
(Criteria)	How Well:	You must score 8 out of 10 on a written exam and also receive 9 out of 10 on a product checklist to master this task.

4. An instructional delivery system is used that:

A. Promotes individualized programs for each student - Each student should be given the opportunity to master the tasks commensurate to his or her interests and abilities. This does not mean that a student must be allowed to complete only the tasks of interest and still receive an associate degree from a community college. It means that the opportunity must be available to students to choose that which they want to learn and or are able to learn.

B. Provides immediate and frequent feedback - Constant and immediate feedback are important aspects of a CBVE program. Students complete self-checks for feedback. Teacher feedback is given during and upon completion of each task. Students no longer have to wait until a unit test is given for feedback. Should a student fail to master a task or need remediation, it can be given immediately. The student may be asked to review a slide tape or video presentation, work with another student, or complete a smaller aspect of the task before attempting the entire task again.

C. Provides flexibility - In a CBVE system of instruction, students progress at their own pace. They do not move on to a new task until they master the task presently being learned. Thus, learning is not time bound.

D. Allows students to proceed at their own rate - In order for CBVE programs to be truly effective, students must be allowed to proceed at their own rate. In order to accomplish this, some community colleges have added some open labs each week to allow slow students the extra time needed or to allow the fast student the time to excell. This element does not rule out teacher pacing as 70 percent of the vocational students desire student pacing while 30-35 percent need to be paced but at their own rate of learning.

E. Requires students to demonstrate mastery of each task - "To learn by doing" has always been a strong point of vocational-technical education. Emphasis is on performance and task completion. Paper and pencil tests are downplayed while performance is highlighted. In many CBVE schools, objective written tests or oral tests are given only to see if the student has the necessary cognitive information to perform a task.

In a CBVE program, each student is individually evaluated on each task. Each student is encouraged to master as many tasks as possible and to the highest possible level.

Some students exiting a program will be able to only perform a minimum number of tasks to a minimal level. They may need a lot of supervision on the job. Others will exit a program being able to perform many tasks on the job with minimal supervision. Still others may exit the program with the ability to teach others to perform tasks.

5. Criterion-referenced measures are used to evaluate attainment of performance objectives and:

A. Emphasis is on actual task performance - Students must complete real tasks in an environment and using equipment as close to the real world as possible.

B. Checklists with prestated standards are used to objectively evaluate students - One of the most critical aspects of ensuring objectivity and of determining whether students are competent is the use of product/performance checklists. There should be one checklist for each psychomotor task. These should be available to the students while they are learning the tasks. The checklists should contain the standards and a yes-no or acceptable-unacceptable two-column rating system. Rating

scales are unacceptable. An abbreviated example would be:

PRODUCT CHECKLIST

Task No. 090 — Type a Letter of Application

Items to be Observed or Checked	Rating Yes	Rating No
1. Free of grammar errors	___	___
2. Free of punctuation errors	___	___
3. Corrected all typing errors neatly	___	___
4. Free of spelling errors	___	___
5. Typed a signature	___	___

C. Written exams are used, but only to ascertain cognitive knowledge. In a CBVE environment, the emphasis is on performance - not paper and pencil tests.

Desirable Components of a CBVE Program

The following are desirable components of competency-based vocational education programs.

6. Student learning is "real world" oriented. The entire orientation of the program is upon tasks performed by workers in the "real world". In some schools, students perform just as they would in industry. They help run real businesses such as a beauty shop, flower shop, restaurant, automotive shop, or body shop. They perform tasks under the supervision of the instructor/supervisor. Grades are their "pay".

7. Instruction is personalized. For over 100 years, many instructors have been giving "lip service" to the research which shows that each student is different. For instance, some students learn by seeing, some by hearing, some by tactile

experiences (feeling), and others by a combination of these. There are many other differences about students. In addition, the ability levels of students are quite varied.

In order to meet the needs, interests, and ability levels of students, a personalized plan of learning should be developed for each one. Since no two students learn in exactly the same way, a separate learning plan is needed for each. In a personalized system of instruction, instructors strive to make time the variable and learning the constant. The tasks to be learned by each student are identified, and each pursues his or her own learning plan. In a traditional system of instruction, all students would pursue the same path. In CBVE, some students in a program may wish to become an automotive mechanic, while others may wish to be carburetor or transmission specialists. Regardless of the level of each student, a personalized plan can be identified.

In addition, the speed of learning is student paced. Each can learn at a pace which is comfortable. Caution must be used here though since 30-35 percent of the students cannot self-pace themselves. The personalized plan must include due dates to assure progress. As much as possible, the learning activities and resources should be geared to the student's learning style and needs.

8. The student and the teacher are more accountable for performance. The student is told up front what he or she must do to complete the program. The majority of the responsibility for program completion is on the student.

   In a similar vein, since the tasks the student should master are known, the teacher can be held accountable for the student's learning of these tasks.

9. An open-entry/open-exit program is possible. It is possible in a CBVE program for students to enter a program at any time if there is room in the program, and to leave any time when the required or desired tasks have been achieved.

This is good for the following reasons:

A. Some students may have the ability to only complete part of the curriculum and yet still be prepared for a job. Rather than keep them in school, they can exit to the job market through a cooperative education program, extended campus experience, or graduation.

B. Some students, employees, or trainees may wish to only learn 10-15 tasks.

C. Students from a given program can interface with students in other programs to learn tasks not available to them. For instance, horticulture students may go to marketing and accounting to learn specific business management tasks.

10. The teacher is a manager and facilitator of learning. The role of the teacher and the student is quite different in a CBVE environment. The teacher assists the student in learning by helping match resources with learning styles. The student, on the other hand, controls the resources without being "spoon fed" by the teacher. In a way, the teacher and student become "partners" in the teaching/learning process.

11. Students exiting a program are provided with a certificate of tasks achieved. Upon exiting a program, students are provided with a certificate which lists all the tasks they learned while enrolled in the program. This certificate is a handy resume for the students to show "what they can do", not what they may know.

12. Job-seeking and job-keeping skills are provided to the student along with related tasks necessary for job success. Research has shown that for the past 45 years, 85 percent of the employees fired was due to reasons other than skill performance. Some of these were: failure to show up for work, failure to work, safety violations, and failure to get along with the supervisor or other employees. Therefore, in a CBVE system, instruction includes tasks needed to

obtain and keep a job.

Related math, science, and other tasks should also be provided to the student.

13. List tasks by job title. It is recommended that tasks be listed by job title on the task list. Essential tasks to be completed for each job title should be identified.

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ACTIVITY SHEET

001-001-004

Essential and Desirable Components of a CBVE Program

Directions: Please indicate whether the following statements are true or false.

___ 1. Subject matter content is identified after instruction begins by a job analysis.

___ 2. Instructional content is expressed in terms of measurable performance objectives.

___ 3. Student performance is assessed mainly with written tests.

___ 4. The tasks to be achieved are made known after instruction begins.

___ 5. CBVE instruction is personalized as much as possible.

___ 6. CBVE learning time is flexible.

___ 7. The student and the teacher are more accountable for performance.

___ 8. An open-entry/open-exit program is not possible with CBVE.

___ 9. Learning is guided by frequent feedback.

___ 10. The role of the teacher is the same in a CBVE system as in a traditional system.

___ 11. Task lists should be updated every two years in a CBVE system.

___ 12. Student learning is real world oriented.

___ 13. Only performance tests may be used for determining a student's grade.

___ 14. In a CBVE system, instruction also focuses on the tasks needed to obtain and keep a job.

___ 15. The emphasis of CBVE is mastery by all students.

___ 16. All students exiting the program are provided with identical task achievement certificates.

NOTE: After completing the above questions, check your answers with the answer key on the next page. If you missed any questions, review Information Sheet #001-001-003 before going on.

Answer Key for Activity Sheet 001-001-004

Essential and Desirable Components of a CBVE Program

Directions: Please check your answers with the following answers.

(F) 1. Subject matter content is identified after instruction begins by a job analysis.

(T) 2. Instructional content is expressed in terms of measurable performance objectives.

(F) 3. Student performance is assessed mainly with written tests.

(F) 4. The tasks to be achieved are made known after instruction begins.

(T) 5. CBVE instruction is personalized as much as possible.

(T) 6. CBVE learning time is flexible.

(T) 7. The student and the teacher are more accountable for performance.

(F) 8. An open-entry/open-exit program is not possible with CBVE.

(T) 9. Learning is guided by frequent feedback.

(F)10. The role of the teacher is the same in a CBVE system as in a traditional system.

(F)11. Task lists should be updated every two years in a CBVE system.

(T)12. Student learning is real world oriented.

(F)13. Only performance tests may be used for determining a student's grade.

(T)14. In a CBVE system, instruction also focuses on the tasks needed to obtain and keep a job.

(T)15. The emphasis of CBVE is mastery by all students.

(F)16. All students exiting the program are provided with identical task achievement certificates.

NOTE: If you missed any questions, review Information Sheet 001-001-003 before going on.

MICRO - PERFORMANCE OBJECTIVE #2

Identify the Role of the CBVE Instructor and Student in a CBVE Environment

LEARNING STEPS

1. Read Resource #1 to identify the role of the CBVE instructor and student.
2. Complete Resource #2 to check your understanding of the CBVE instructor and student role.
3. Go to next MPO.

RESOURCES

1. Information Sheet 001-002-001, "Role of the CBVE Instructor and Student," located in this guide, pages 23-25.
2. Activity Sheet 001-002-002, "Role of the CBVE Instructor and Student," in this guide, page 26.
3. MPO #3 this guide, page 27.

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INFORMATION SHEET

001-002-001

Role of the CBVE Instructor

The major role of the instructor is one of "coordinating learning activities" rather than the traditional "dispensing of information". Instructors in a CBVE system spend the major portion of training time giving demonstrations, assigning tasks to students, providing individual and small group assistance, evaluating student progress, and providing individual consultation. The following functions outline the role of the instructor in learner-centered instructional situations.

1. Serves as a team member to determine what is to be learned
2. Stimulates students' motivation
3. Manages learning; a consultant rather than a provider of information; a facilitator of the learning process
4. Diagnoses and solves learning problems
5. Evaluates student achievement
6. Assists learners to obtain individualized rewards
7. Assists each student in designing a personalized plan of study
8. Instills confidence in the learner by providing experiences where learners may succeed
9. Serves as a model for desirable work habits, attitudes, and task performance in the occupational field
10. Spends more time interacting with students on a 1:1 or small group basis
11. Helps those students who really need the help
12. Accepts resporsibility along with the student for the tasks learned or not learned

Role of the CBVE Student

In concert with the concept of "Learner-Centered-Instruction", students function on an individual basis in pursuing the instructional program prescribed for their personal goals and objectives. The major portion of the student's time is spent in directed self-study and practice, supervised at all times by a member of the instructional staff who provides immediate assistance to the student when necessary.

In a CBVE system, the following outlines the role for students:

1. Students may select what they want to learn, and when they want to learn it, within reason.
2. Students learn at their own rate within program guidelines. They may speed up, slow down, stop, or even repeat a task.
3. Students may request to receive credit for what they already know. This is done either through pretesting or through a review of a task list completed at another training site.
4. Students may choose how they want to learn--individually, on a one-to-one basis, in small groups, in large groups, or through the use of audiovisuals.
5. Students are responsible for what they learn and when they learn it.
6. Students decide when they are ready to perform each task or demonstrate mastery of learning to a job-like level of proficiency before receiving credit for the task.
7. Students help develop a personalized prescription for learning worked out cooperatively and based upon what the student already knows, his/her preference for learning, learning style, and other needs.

8. Students compete against preset job standards and not other students and are graded on achievement of the standards or criteria of each task.
9. Students know "up front", before instruction begins, what they are expected to know and do to complete the program.
10. Students evaluate their own progress to see how well they are doing.
11. Students move freely in the classroom, shop, laboratory, and/or the training center.
12. Students know they will be graded mainly on performance, while paper and pencil tests will be used mainly to check their knowledge of the task.
13. Students learn according to their interests, needs, and abilities - not according to teacher time lines and expediency.

ACTIVITY SHEET

001-002-002

Role of the CBVE Instructor and Student

1. List six functions which outline the role of the instructor in a CBVE environment.

   A.

   B.

   C.

   D.

   E.

   F.

2. List the role of students in a CBVE system.

   A.

   B.

   C.

   D.

   E.

   F.

   G.

   H.

   I.

   J.

NOTE: Check your answers with Information Sheet 001-002-001. If you missed any answers, please review the Information Sheet to identify the correct responses.

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MICRO - PERFORMANCE OBJECTIVE #3

Identify the Advantages, Concerns, Myths, Misconceptions, and Benefits of CBVE

LEARNING STEPS

1. Read Resource #1 to identify the advantages, concerns, myths, misconceptions, and benefits of CBVE.

2. Complete Resource #2 to assess your understanding of CBVE.

3. Go to next MPO.

RESOURCES

1. Information Sheet 001-003-001, "Advantages, Concerns, Myths, Misconceptions, and Benefits of CBVE," located in this guide, pages 28-33.

2. Activity Sheet 001-003-002, "Advantages, Concerns, Myths, Misconceptions, and Benefits of CBVE," located in this guide, pages 34-35.

3. MPO #4 in this SLG, page 36.

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INFORMATION SHEET

001-003-001

Advantages, Concerns, Myths, Misconceptions, and Benefits of CBVE

Advantages of CBVE

1. Provides immediate learning success/failure feedback to the student, instructor, or anyone else interested in the student's progress
2. Need not separate initially enrolled students from those subsequently enrolled
3. Provides for program interfacing
4. Allows flexibility through the possibility of immediately changing and upgrading tasks when the job market changes
5. Reduces the need for duplication of materials and equipment since not all students will be learning on the same materials or equipment at the same time
6. Reduces the duplication of curricula in the school as students have the flexibility to move from one program to another
7. Reaches students who are turned off by traditional instruction
8. Provides the instructors more time to work with students who are having problems or who have a special need
9. Provides for students to learn from each other
10. Allows the number served to be determined by facilities and safety factors, and not by a set teacher:student ratio
11. Allows programs to be offered in areas where small enrollments normally would not warrant a program
12. Incorporates media functions as an integral part of the learning system as opposed to the conventional supplementary role
13. Provides that student time in the learning laboratories is devoted almost exclusively to individual "hands-on" experiences

14. Allows that students may pursue tasks in their area of interest rather than follow a preestablished curriculum
15. Allows students to receive realistic training for the job
16. Provides that students know what is expected of them prior to instruction
17. Allows students to practice until they become competent

Concerns, Myths, and Misconceptions of CBVE

1. CBVE is inhumane and dehumanizing. The opposite is true. Instruction which is not competency based is inhumane and dehumanizing. When students are all taught the same thing at the same time in a group setting with no regard for student needs, interests, and ability level, they are not treated as human beings. Slow students fall behind in this system of instruction and never reach their full potential. They become frustrated at not being able to keep up with other students. Fast students are held back since instruction is usually geared to the average student.
2. The instructor role is reduced with CBVE. The opposite is true with CBVE. The instructor is more active than with traditional instruction. It takes better organizational skills and better management skills to teach under CBVE. The role of the instructor is changed but is not reduced.
3. CBVE is another fad. CBVE is not a fad, but rather a systematic process for organizing and delivering vocational-technical instruction. The basic process of curriculum organization has remained almost the same since the passage of the Smith-Hughes Act. Vocational instructors have always identified program content, validated the content, wrote objectives, and evaluated students. The same activities are completed today except that more precision is used in writing task statements, performance objectives, and objective evaluation instruments. Probably

the greatest changes are: (1) telling the students up front what they are to learn and how well they are to learn these tasks, (2) putting the emphasis for evaluation on performance, (3) evaluating skill completion against preset standards and not other students, (4) allowing students to only complete a segment of the curriculum, and (5) performing a worker validated job analysis.

4. CBVE places too much emphasis on reading and works only for the above average students. CBVE works for all levels of students while the opposite is true with traditional instruction. The traditional approach works best for the above average students, while the nonreader tends to get further and further behind. With CBVE, techniques can be used to assist the nonreader to be successful.

5. There is too much paperwork with CBVE. There may or may not be more paperwork with CBVE. The amount of paperwork depends on the learning delivery system employed to teach the students. Use of self-contained learning packages with many self-checks could cause an increase in paperwork. However, much of this can be relegated to the students. They can evaluate their own self-checks which replace instructor quizzes and homework assignments.

   Giving written and performance tests to students on a daily basis is very disrupting to the instructor who is used to, and prefers to give, unit tests to students all at one time. With CBVE, the instructor must be better organized to handle the grading and monitoring of students on an individual task basis. Primary teachers have done this for years.

6. CBVE may be OKAY, but it will not work in my program because... There is evidence of CBVE working in all program areas; however, unless an instructor and/or a school is convinced, it probably will not work. The sacrifices are hard work and better organization. Admitedly, it is harder to precisely identify course content and to teach this way.

To overcome some of the hard work, materials which have already been developed can be adapted. Assistance from developers is available to individuals and schools interested in CBVE.

7. Teachers teach to the test with CBVE. With CBVE instructors only cover the materials in which they will test the students. Irrelevant material is eliminated. Looked at another way, with CBVE students learn to perform the tasks for which they will be tested. They are not taught to prepare for a test. One major principle of CBVE is that testing is designed for all students to pass. With CBVE, students are expected to "perform".

8. The standards are lowered with CBVE. Quite the opposite is true. With CBVE, students cannot aim for mediocrity and "just slide by". Each student must perform. Each student must master each task on his or her personal plan of instruction. With traditional approaches, the student may receive grades ranging from "A" to "F" and average a "C" or "D" and pass. With CBVE, the standards must be met by every student on every task. Students cannot "average" their way through the curriculum.

9. CBVE programs are more expensive to operate than traditional programs. This is not true. CBVE in the ideal sense does require a variety of teaching/learning materials and current equipment; however, the amount needed is less than with a traditional system. A CBVE program requires a minimum number of books, tools, and equipment for each task since only a few students will be working on the same task at the same time. CBVE allows optimum use of tools, equipment, and space (high cost items). Therefore, the resources spent to obtain duplicate equipment may be used to purchase a variety of equipment for the program area.

10. With personalized CBVE, one teacher cannot adequately supervise students working in many different diverse areas. This may be true. One teacher cannot provide

direct supervision for all students at the same time. The question to be asked is, "What do traditional teachers do at the present time?" CBVE teachers employ other techniques to monitor students. For high enrollment programs, paraprofessionals may be used. Advanced students may assist by tutoring and providing the needed supervision. Some teachers organize their programs to resemble a business. A student superintendent or manager along with supervisors, safety inspectors, tool checkers, and other inspectors are appointed. Students who qualify are rotated through these jobs. The students who perform as a supervisor exit the program with a higher set of skills.

Benefits of CBVE

Benefits will accrue to the students, instructors, administrators, and the community by implementing a CBVE system in a school, industry, or institution. The most important benefits are:

1. All students learn to their abilities and master specific skills required for employment.
2. A trained pool of competent future employees are available to industry.
3. Buildings and instructional equipment can be used more efficiently.
4. Job placement is facilitated due to leavers all during the year.
5. Articulation among secondary and post-secondary programs is facilitated.

Benefits Shown by Research

In a traditional system of instruction, 70 percent of the students usually can perform 70 percent of the tasks they learned 70 percent of the time on a job. In a CBVE system, 95 percent of the students usually can perform 95 percent of the tasks they learned 95 percent of the time on a job. The result is a 25 percent net gain in task

performance on a job for those students who learned via a CBVE system of instruction.

ACTIVITY SHEET

001-003-002

Advantages, Concerns, Myths, Misconceptions, and Benefits of CBVE

Directions: Please indicate whether the following statements are true or false.

____ 1. An advantage of CBVE is that programs with small enrollments can be offered.

____ 2. Instructors have less time to work with students in a CBVE program.

____ 3. More equipment is needed for a CBVE program compared to a traditional program.

____ 4. Students receive feedback more often in a CBVE program.

____ 5. CBVE is inhumane and dehumanizing.

____ 6. It takes better management skills to teach a CBVE program.

____ 7. The basic process for curriculum identification has been changed drastically with CBVE procedures.

____ 8. CBVE places too much emphasis on reading.

____ 9. The amount of paperwork always increases with a CBVE program.

____10. CBVE techniques will work in all program areas.

____11. Irrelevant, nice-to-know materials generally are not taught in a CBVE program.

____12. Standards of performance remain the same for all students.

____13. More equipment is needed to operate a CBVE program.

____14. Articulation can be facilitated with a CBVE system.

____15. All students learn to their abilities with a CBVE program.

NOTE: After completing the above questions, check your answers with the answer key on the next page. If you missed any questions, review Information Sheet 001-003-001.

ANSWER KEY FOR ACTIVITY SHEET

001-003-002

Advantages, Concerns, Myths, Misconceptions, and Benefits of CBVE

Directions: Please check your answers with those listed below.

(T) 1. An advantage of CBVE is that programs with small enrollments can be offered.

(F) 2. Instructors have less time to work with students in a CBVE program.

(F) 3. More equipment is needed for a CBVE program compared to a traditional program.

(T) 4. Students receive feedback more often in a CBVE program.

(F) 5. CBVE is inhumane and dehumanizing.

(T) 6. It takes better management skills to teach a CBVE program.

(F) 7. The basic process for curriculum identification has been changed drastically with CBVE procedures.

(F) 8. CBVE places too much emphasis on reading.

(F) 9. The amount of paperwork always increases with a CBVE program.

(T) 10. CBVE techniques will work in all program areas.

(T) 11. Irrelevant, nice-to-know materials generally are not taught in a CBVE program.

(T) 12. Standards of performance remain the same for all students.

(F) 13. More equipment is needed to operate a CBVE program.

(T) 14. Articulation can be facilitated with a CBVE system.

(T) 15. All students learn to their abilities with a CBVE program.

NOTE: If you missed any questions, review Information Sheet 001-003-001.

MICRO - PERFORMANCE OBJECTIVE #4

Identify the Characteristics of a CBVE Program

LEARNING STEPS

1. Read Resource #1 for a comparison between traditional programs and CBVE programs.
2. Complete Resource #2 to check your understanding of the differences between traditional and CBVE programs.
3. Complete Resource #3 to evaluate your current program.
4. When you feel you have mastered this task, take the written criterion exam.

RESOURCES

1. Information Sheet 001-004-001, "A Comparison Between Traditional Vocational Programs and Competency-Based Vocational Education Programs," located in this SLG, pages 37-39.
2. Activity Sheet 001-004-002A, "A Comparison Between Traditional and CBVE Programs" and 001-004-002B "Identify the Characteristics of a CBVE Program," located in this guide, pages 40-42.
3. Activity Sheet 001-004-003, "Competency-Based Checklist," in this guide, pages 43-45.
4. Written Criterion Exam: Task #001. Pages 46-48 located in this SLG.

INFORMATION SHEET

001-004-001

A Comparison Between Traditional Vocational Programs and

Competency-Based Vocational Education Programs

	Traditional Programs	Competency-Based Programs
1.	Content-Based	Competency-Based
2.	Time-Based	Performance-Based
3.	Group-Paced	Individually Paced
4.	Norm-Referenced Evaluations	Criterion-Referenced Evaluations
5.	Classroom-Based	Performance-Based ("Real World")
6.	Group Needs	Individual Needs
7.	Delayed Feedback	Immediate Feedback
8.	Subjective Evaluation Criteria	Objective Evaluation Criteria
9.	Course Grades as Evidence of Mastery	Tasks Achieved as Evidence of Mastery
10.	General Course Objectives	Specific Student Performance Objectives
11.	Entrance Prerequisites	Exit Requirements
12.	Course Content Seldom Made Public	Tasks Made Public in Advance of Instruction
13.	Student Attempts to Complete Entire Program	Student Completes Tasks Leading to Employability
14.	Emphasis on Knowledges and Skills	Emphasis on Task Performance
15.	Student Failure Accepted and Recorded	Little Provision for Failure

INFORMATION SHEET

001-004-001 (Cont'd.)

A Comparison of Competency Based and Traditional Programs

Competency-Based Program	Traditional Program
1. Achievement is held constant and time varies. The tasks to be achieved are specified, and the students move through the program at their own rate of progress.	1. Time is held constant and achievement varies. Students are class paced. The program duration is set within certain limits and all students go through an established number of units of instruction.
2. Students may select those tasks of interest and/or pretest out of certain tasks.	2. All students complete the same units of instruction.
3. The sequence of learning activities is established by the student and instructor.	3. The sequence of instruction is established by the teacher.
4. Emphasis is on mastery by all students and not quantity.	4. Emphasis is on the completion of a certain body of knowledge regardless of whether all students have acquired mastery in all areas of study.
5. Emphasis is on task performance.	5. Emphasis is on knowledge acquisition.
6. Emphasis is placed on exit requirements. It is much more important to look at an individual's abilities after having completed a program than it is to look at one's abilities prior to the program.	6. Heavy emphasis is placed on program entrance requirements (prerequisites). Certain individuals are selectively screened from a traditional program via prerequisites.
7. Course content is determined by job and task analysis using advisory committees.	7. Course content is determined by the teacher with or without advisory committees.
8. The specific tasks to be completed are specified by the teacher in learner-oriented fashion.	8. The course content to be achieved may or may not be specified.
9. Performance objectives are based upon the tasks.	9. Course objectives are based upon course content.
10. Learning situations are based upon job-like conditions and criteria.	10. Learning situations are based upon teacher preference.

INFORMATION SHEET

001-004-001 (Cont'd.)

11. Instruction may be individualized.	11. Instruction is group oriented and group paced.
12. Various alternative modes of learning are available for completing given objectives.	12. Instruction is lockstepped. Very few alternatives are available.
13. Programs are continuously updated through systematic procedures.	13. Updating of programs is not very systematic.
14. Programs can be updated with relative ease.	14. It is more time consuming and cumbersome to update traditional programs.
15. Student learning is "real-world" oriented.	15. Student learning is classroom and laboratory oriented.
16. Emphasis is on independent study utilizing mediated materials.	16. Emphasis is on lecture/discussion.
17. Differentiated staffing is encouraged.	17. Singular or multiple teacher staffing is the rule.
18. Students spend more time interacting with each other one to one.	18. Student interaction is mostly in a group setting.
19. Teachers spend more time on a one-to-one basis with students.	19. Teachers normally do not spend much one-to-one time with students.
20. More time can be devoted to those students who really need the help.	20. All students receive the same amount of time with much interaction occurring between the more vocal students and teachers.
21. Programs are designed and updated with relevancy in mind.	21. Programs are designed relative to subject matter to be covered.
22. Student progress is measured by comparing performance with specific objectives.	22. Student progress is measured by comparing performance with other students.
23. The characteristics of each student is taken into consideration in the selection of training objectives, sequence of study, choice of materials, and procedures.	23. The class characteristics influence the teacher's choice of materials and their sequence.

ACTIVITY SHEET

001-004-002A

A Comparison Between Traditional Vocational Programs and CBVE Programs

Directions: Complete the sheet. Characteristics of a traditional program are listed. List those for a CBVE program.

	Traditional Programs	Competency-Based Programs
1.	Content-Based	
2.	Time-Based	
3.	Group-Paced	
4.	Norm-Referenced Evaluations	
5.	Classroom-Based	
6.	Group Needs	
7.	Delayed Feedback	
8.	Subjective Evaluation Criteria	
9.	Course Grades as Evidence of Mastery	
10.	General Course Objectives	
11.	Entrance Prerequisites	
12.	Course Content Seldom Made Public	
13.	Student Attempts to Complete Entire Program	
14.	Emphasis on Knowledges and Skills	
15.	Student Failure Accepted and Recorded	

NOTE: Please check your answers with Information Sheet 001-004-001. If you missed any, review the sheet before progressing to the next page.

ACTIVITY SHEET

001-004-002B

Identify the Characteristics of a CBVE Program

Directions: Listed below are 15 statements. Nine of them accurately describe the characteristics of a CBVE program. Place a checkmark on the blank line of those statements which accurately describe a CBVE program. Compare your answers with the key provided at the bottom of the next page. You must identify eight correctly before proceeding to the next learning step.

____ 1. CBVE is an instructional approach designed to improve vocational-technical education.

____ 2. CBVE is a system in which the teacher is held most accountable for a student's performance.

____ 3. CBVE de-emphasizes instruction and emphasizes testing.

____ 4. CBVE emphasizes group instruction primarily based upon lecture and demonstration activities.

____ 5. With CBVE, the performance objectives are made known to the students in advance of instruction.

____ 6. With CBVE, the related knowledge associated with job tasks is also provided.

____ 7. CBVE holds the student accountable for achieving passing grades when compared with other students.

____ 8. CBVE places emphasis on exit requirements of a program or course.

____ 9. CBVE holds the student accountable for achieving a given level of competency.

____10. CBVE is a system which recognizes that learning occurs over a specific period of time for most students.

____11. CBVE provides for frequent and/or immediate feedback to students.

____12. With CBVE, the performance standards remain constant while time and learning methods vary.

____13. CBVE is a system which insures that most students will be employable at the end of a specific period of time.

ACTIVITY SHEET

001-004-002B (Cont'd.)

____14. CBVE is based upon performance objectives which are derived from actual worker tasks.

____15. CBVE requires the teacher to perform differently than in a traditional system of instruction.

ANSWERS: 1,5,6,8,9,11,12,14,15

DEPT.	PROG	TASK	TPO	MPO
	PTT	001	001	004

ACTIVITY SHEET

001-004-003

Competency-Based Checklist

Directions: Evaluate your vocational or technical program using the following checklist. Rate each item "yes" or "no" on each characteristic. Please be as objective as possible in your ratings.

Characteristics	Criteria Yes	Criteria No
Essential Components of a CBVE Program		
* 1. Tasks to be achieved are:		
* A. measurable	___	___
* B. based upon actual worker's tasks	___	___
* C. validated by representatives of business and industry	___	___
* D. made public in advance of instruction	___	___
* E. updated annually	___	___
* 2. Performance objectives are written for each task	___	___
* 3. Each performance objective:		
* A. states the actual conditions under which the task will be performed for evaluation	___	___
* B. contains explicitly stated criteria and standards for evaluation	___	___
* C. contains a restatement of the task	___	___
* D. is made public in advance of instruction	___	___
* 4. An instructional delivery system is used that:		
* A. promotes individualized programs for each student	___	___
* B. provides immediate feedback	___	___
* C. provides flexibility	___	___
* D. allows students to proceed at their own rate	___	___
* E. requires students to demonstrate mastery of each task	___	___

Characteristics	Criteria Yes	Criteria No
* 5. Criterion-referenced measures evaluate attainment of performance objectives and:		
* A. emphasis is on actual task performance.....	___	___
* B. checklists with prestated standards are used.....	___	___
* C. written exams are used, but only to ascertain cognitive knowledge.....	___	___

*Critical Items

Total Possible Points	18
Points Earned	___
Points Needed for Mastery	18

Desirable Components of a CBVE Program

6. Student learning is "real world" oriented.....	___	___
7. Instruction is personalized.....	___	___
8. The student is accountable for performance of tasks.....	___	___
9. An open-entry/open-exit program is possible.....	___	___
10. The teacher is a manager and facilitator of instruction.....	___	___
11. A certificate of tasks achieved or mastered is provided each student upon exiting a program.....	___	___
12. Are the following skills provided to the student?		
A. Job-seeking skills.....	___	___
B. Job-keeping skills.....	___	___
C. Related skills.....	___	___
13. Are tasks listed by job title? (Essential skills identified).....	___	___

Total Possible Points	10
Points Earned	___
Points Needed for Mastery	7

DEPT.	PROG	TASK	TPO	MPO
	PTT	001	001	004

ACTIVITY SHEET

001-004-003 (Cont'd.)

NOTE: If you scored 18 out of 18 on Items 1-5, you have a good CBVE program. If you scored less than 18, you should lay out a plan to improve your program.

Competency-Based Professional Teacher Training

WRITTEN CRITERION EXAM

Task 001

Directions:

The purpose of this exam is to determine whether or not you have understood the information of identifying the characteristics of a CBVE program.

Each of the questions or incomplete statements below is followed by several words, phrases, or a series of numbers. Choose the one which best answers the question or completes the statement correctly. Place the letter associated with that choice "A", "B", "C", or "D" in the numbered blank space on your Answer Sheet. Do not write on this test! To master this exam you must answer 9 out of 10 items correctly, (90%)

1. One of the major reasons for having a competency-based learning system is that:

   A. it reduces the students' responsibility for their own learning.
   B. it gives the student more responsibility in decision making and time management.
   C. students compete against each other for mastery of tasks.
   D. all students can proceed at the same rate within program guidelines.

2. A properly developed competency-based curriculum identifies:

   A. an expected level of performance.
   B. the tasks to be mastered.
   C. cognitive, affective, and psychomotor tasks.
   D. all of the above.

3. CBVE is a system which insures that most students will be employable:

   A. upon exiting a program or course.
   B. at the end of a specified period of time.
   C. upon task completion at minimum mastery.
   D. none of the above.

4. In a CBVE system:

   A. performance standards remain constant.
   B. learning methods vary.
   C. the length of time to learn varies.
   D. all of the above.

5. CBVE places emphasis on:

   A. entrance requirements.
   B. exit requirements.
   C. both A & B.
   D. none of the above.

6. A CBVE program is based upon:

   A. actual worker tasks.
   B. performance objectives.
   C. criterion referenced exams.
   D. all of the above.

7. CBVE holds the student accountable for:

   A. attaining a given level of competence.
   B. the number of competencies completed.
   C. achieving passing grades when compared to other students.
   D. both A & C.
   E. both A & B.
   F. A, B, & C.

8. CBVE is a system which recognizes that learning occurs for most students:

   A. over a specified period of time.
   B. over an unspecified period of time.
   C. in a sequential order.
   D. by completing tasks.
   E. all of the above.

9. Which of the following is true regarding a CBVE program?

   A. Time is held constant and achievement varies.
   B. Achievement is held constant and time varies.
   C. Emphasis is on obtaining a given body of knowledge.
   D. All students complete the same tasks and learning materials.

10. In a competency-based individualized learning system:

   A. a norm-referenced grading system is used.
   B. a student receives credit only for completing the entire course.
   C. each student must complete each task to a predetermined standard of performance.
   D. there is a closed entry and exit time for students.

ANSWER KEY

For Written Criterion Exam

001

Question	Correct Answer
1.	B
2.	D
3.	A
4.	D
5.	B
6.	D
7.	A
8.	B
9.	B
10.	C

DEFINITION OF TERMS

Affective Domain: Learning which involves the emotions or feelings. Described by words such as interests, attitudes, appreciations, values, motivation and enthusiasm.

Articulation: The relationship of an instructional program to similar or related programs at another level, i.e., between high schools and community colleges.

Checklist: Performance and/or product measures containing a key list of criteria used to evaluate the student's performance of the task. The checklist is a type of criterion referenced test that requires the student to actually do a task under the conditions and standards stated in the performance objective. The instructor uses the checklist to note student performance as acceptable or unacceptable.

Cognitive Domain: Deals with the thought processes and is learning which involves recall, recognition, and a development of intellectual skills and abilities; the information a person "knows".

Competency: Ability to perform a specific task successfully to meet a specified standard.

Competency-Based Vocational Education (CBVE): [competency-based education (CBE), performance based education (PBE), criterion referenced instruction (CRI), competency based instruction (CBI), mastery learning]: A systematic way of organizing instruction which insures that students who complete a vocational-technical program can successfully perform each task to an acceptable entry level industry standard. To qualify for CBVE, the program must contain the following components: (1) tasks are verified or validated by industry employees or an advisory committee, (2) performance objectives are written which contain industry standards of expectation for completion, and the conditions under which the tasks are to be performed, (3) criterion referenced evaluation measures are used based upon the standards stated in the performance objective, (4) the performance objectives and task lists are made available to students prior to instruction, (5) student performance is evaluated against the stated standards and not against group norms or other students. (See also Personalized CBVE)

Competency Profile: A form which shows all duties and tasks needed by an entry level worker for a given occupation. Also used as a record-keeping form to keep track of tasks completed by a student.

Competency Statement: A statement which includes an action verb and a noun that describes a job task (i.e., bake a cake, replace brake shoes, etc.) In these manuals, all competency statements are referred to as tasks.

Criterion: The performance standard or proficiency statement listed in the performance objective by which students will be evaluated.

Criterion Referenced Test (CRT): [Criterion referenced measure (CRM), criterion exam, criterion referenced evaluation, objective referenced test, or proficiency test]: An evaluation of a student's performance of a task, according to the conditions and standards stated in the performance objective rather than by comparing one student to another or to a group.

Curriculum: The sum total of tasks, objectives, content and learning activities arranged in a learning sequence for a particular instructional area.

Dictionary of Occupational Titles (DOT): A document published by the Employment and Training Administration, U. S. Department of Labor, that contains descriptions of specific job titles, tasks and work requirements for each job.

DOT Code: A nine digit number used to identify a specific job within a given cluster and taken from the Dictionary of Occupational Titles.

Duty: A group of related tasks performed by incumbent workers in an occupational area and which are related to each other by the nature of the work to be performed (i.e., Job-Duty-Task-Step).

Enabling Objective (EO): [Micro-performance Objective (MPO), Intermediate Objective (IO), Subordinate Objective (SO)]: Statements that describe student knowledges, skills and attitudes which must be learned first in bite-size fashion before students attempt the terminal performance objective.

Entry Level Tasks: Those tasks required of a beginning worker in an occupation for immediate productivity upon entering an occupation.

Feasibility Study: A study conducted for the purpose of determining whether or not a certain program of instruction should be offered. Factors such as prerequisites, investment requirements, employment opportunities and the number of students to be trained are taken into consideration.

Individualized Instruction: (Personalized instruction, individualized learning, individually prescribed instruction): Instruction which is learner centered rather than content centered. Students work alone or in small groups on learning activities, materials, and projects designed to meet their interests, needs, abilities, and learning styles. The rate of learning and the tasks to be learned are agreed upon by the student and teacher with each student having his or her own prescription.

Interview Method: A job analysis technique in which employees are interviewed to gather information about their jobs.

Job: Composed of a group of duties and tasks performed regularly in one's trade, occupation, or profession (i.e., Job-Duty-Task-Step).

Job Analysis: (Occupational Analysis): A process designed to identify all the important tasks necessary for the performance of a job. The method used to gather information about a job that may involve observations, interviews, and questionnaires or the validation of a list of tasks by an advisory committee.

Job Title: The common name by which a position is identified by industry.

Learning Activities: Learning experiences or learning steps with directions instructing the students What to do, (i.e., view a videotape, read a book, practice a skill, etc.), Why do it, and How to do it. All learning activities lead toward performance of a task.

Learning Activity Package (LAP): [Learning module, learning package, learning packet, student learning guide]: A package of learning materials organized around a task and designed to help the student manage his or her learning. Each LAP usually consists of a task description, performance objective, enabling objectives, learning steps, activities, resources (print and A/V), self-evaluations, information sheets, job sheets, and product/performance checklists. The package may be self-contained or it may be a guide referring the student to many different resources. It may also contain a pretest. Usually a part of the LAP, but not contained with it, is the written criterion exam used to test the cognitive knowledge.

Learning Resources: Materials or activities, separate from procedural directions, and resource persons from which or whom a student gains the skills, knowledges and attitudes necessary to perform job tasks. They may include print and audiovisual materials of all kinds, equipment used in the occupation, computers, simulators, instructors, internships, peers, small or large group sessions (lectures, discussions, etc.).

Mastery: Attaining a specified level of competence or performance, meeting the specified minimum requirements or standards of a task stated in a performance objective.

Measurement: A systematic, objective procedure for evaluating a student's performance or behavior.

Norm Referenced Test: A test in which the student's score is compared to the scores of other students taking the test.

Observation Method: A job analysis method of collecting data in which employees are observed while performing their jobs.

Occupational Analysis: (See Job Analysis)

Occupational Cluster: A group or listing of jobs within a particular area that shares common experiences, knowledges, and skill requirements, such as transportation occupations, construction occupations, business occupations, manufacturing occupations, etc.

Open Entry/Open Exit: A scheduling approach that allows students to enter or leave a vocational-technical program at any time.

Occupational Inventory: (Job inventory, task inventory): A survey instrument containing a listing of tasks performed in a particular occupational area grouped under duty titles.

Performance Objective: (Measurable objective, terminal performance objective, or criterion objective): A statement of what the learner must do to master a given task. The statement is stated in measurable terms and consists of three parts: (1) the conditions under which the task will be performed and the tools or equipment which will be used, (2) a description of the task, and (3) the standard, proficiency statement or criteria which states how well and how fast the task must be performed for mastery.

Performance Test: A type of observational objective test used to evaluate student performance of a particular task.

Personalized CBVE: A type of instruction that permits student self-pacing and which is learner centered rather than content centered. The program content is matched to the student's interests and abilities. Each student works toward his or her own employability job title and each takes as long as his or her particular learning style requires to complete the program. Personalized CBVE programs usually operate on an open entry/open exit concept wherein a student, unemployed worker, or underemployed worker may enter a program to learn a given number of tasks and then exit the program.

Psychomotor Domain: Motor skill learning which involves manipulative or muscular movement activities.

Skill: A manipulative action performed while producing a finished product or performing a task.

Standard: (Criterion): That part of a performance objective or of a criterion referenced measure which describes how well or to what level of proficiency a task must be performed.

Step: Those procedures or activities performed in the completion of a task. A very specific level in the hierarchy of a job (i.e., Job-Duty-Task-Step).

Student Learning Guide: (See Learning Activity Package)

Systems Approach: A logical and systematic procedure for doing something.

Student Competency Sheet: A guide which lists the duty, task, and the performance objective along with suggested learning activities and resources for accomplishing the task.

Student Contract: A formal, written agreement between the instructor and student that specifies the tasks to be completed during a specified period of time.

Task: (Task Statement): A complete measurable element of work performed by an individual in a short span of time in the completion of a job duty (i.e., Job-Duty-Task-Step). Performance of a task usually results in a product or some observable change. Examples: type a business letter; calculate net salary.

Task Analysis: (Task detailing): Listing of all the steps or what the worker does when performing each of the tasks.

Task Detailing: Listing the steps involved in performing a job task in terms of what is done.

Task List: (Task listing transcript): A listing of the tasks performed by workers in a given occupation/job.

Terminal Performance Objective: (See Performance Objective).

Unit of Instruction: A set of instructional materials used for the planning and delivery of instruction. It usually includes performance objectives, suggested learning activities, information sheets, activity sheets, assignment sheets, visual aids, tests, and answer keys.

Vocational-Technical Education Consortium of States (V-TECS): A group of states and agencies that banded together to develop catalogs of performance objectives and performance guides in vocational-technical education. V-TECS employs a uniform procedure for identifying tasks and in developing objectives based on a job analysis technique. Members develop catalogs and receive

catalogs developed by other members. V-TECS is an operating unit of the Commission on Occupational Education Institutuions, Southern Association of Colleges and Schools.

V-TECS Catalog: A comprehensive collection of performance objectives, performance guides, and related data developed for a specific occupation.